

CLAIMS

1. An articulated device for advancing a medical implant along a catheter, the device comprising a plurality of segments arranged one after the other in line, each segment being hingeably connected to a single adjacent segment if it is at the end of the line and otherwise to two adjacent segments, whereby a medical implant mounted at one end of the device can be advanced through a catheter by pushing on the other end of the device, the hinged connections allowing the device to follow a curved path through the catheter.
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10. 2. A device as claimed in claim 1, wherein each segment is detachable from its adjacent segment(s).
15. 3. A device as claimed in claim 1 or 2, wherein each segment comprises a male part and a female part, the male part of a segment being able to engage with the female part of an adjacent segment, and the female part being able to engage with the male part of an adjacent segment.
20. 4. A device as claimed in claim 3, wherein the male part comprises a pair of projections and the female part comprises a slot for accepting the projections.
25. 5. A device as claimed in claim 3 or 4, wherein the male part comprises a ball and the female part comprises a socket.
30. 6. A device as claimed in any preceding claim, wherein the segments are formed from a material which is sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device.
7. A device as claimed in any preceding claim which includes from 15 to 80 segments.
8. A device as claimed in any preceding claim, wherein each segment has a lumen

passing through its body along its longitudinal axis, so that the plurality of lumen substantially align to allow a guide wire to pass therethrough when the device is in use.

5 9. A device as claimed in any preceding claim, wherein each segment has a channel in its outer wall so that the plurality of channels substantially align to allow a guide wire to pass therethrough when the device is in use.

10 10. A device as claimed in any preceding claim, wherein the ratio of the length to the widest diameter of each segment is in the range 1:1 to 1:5.

15 11. A device as claimed in any preceding claim, wherein the maximum degree of articulation between the longitudinal axis of one segment and the longitudinal axis of an adjacent segment is at least 15°.

12. A kit comprising a device as claimed in any preceding claim and a medical implant mounted on one end of the device.

13. A kit as claimed in claim 12 wherein the medical implant is a vascular graft.

20 14. A kit as claimed in claim 12 or 13 additionally comprising a delivery catheter.

15. A segment for a device as claimed in any of claims 1 to 11.

25 16. A method of advancing a medical implant along a catheter comprising providing a device as claimed in any of claim 1 to 11 having an implant mounted on one end of the device, inserting said end of the device into the catheter, and pushing on the other end of the device.

AMENDED CLAIMS

[received by the International Bureau on 18 January 2005 (18.01.05);
original claims 1 – 16 replaced by amended claims 1 – 15 (2 pages)]

1. An articulated device for advancing a medical implant along a catheter, the device comprising a plurality of segments arranged one after the other in line, each segment being hingeably connected to a single adjacent segment if it is at the end of the line and otherwise to two adjacent segments, whereby a medical implant mounted at one end of the device can be advanced through a catheter by pushing on the other end of the device, the hinged connections allowing the device to follow a curved path through the catheter,
characterised in that each segment is detachable from its adjacent segment(s).
2. A device as claimed in claim 1, wherein each segment comprises a male part and a female part, the male part of a segment being able to engage with the female part of an adjacent segment, and the female part being able to engage with the male part of an adjacent segment.
3. A device as claimed in claim 2, wherein the male part comprises a pair of projections and the female part comprises a slot for accepting the projections.
4. A device as claimed in claim 2 or 3, wherein the male part comprises a ball and the female part comprises a socket.
5. A device as claimed in any preceding claim, wherein the segments are formed from a material which is sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device.
6. A device as claimed in any preceding claim which includes from 15 to 80 segments.
7. A device as claimed in any preceding claim, wherein each segment has a lumen passing through its body along its longitudinal axis, so that the plurality of lumen substantially align to allow a guide wire to pass therethrough when the device is in

use.

8. A device as claimed in any preceding claim, wherein each segment has a channel in its outer wall so that the plurality of channels substantially align to allow a guide wire to pass therethrough when the device is in use.
9. A device as claimed in any preceding claim, wherein the ratio of the length to the widest diameter of each segment is in the range 1:1 to 1:5.
10. A device as claimed in any preceding claim, wherein the maximum degree of articulation between the longitudinal axis of one segment and the longitudinal axis of an adjacent segment is at least 15°.
11. A kit comprising a device as claimed in any preceding claim and a medical implant mounted on one end of the device.
12. A kit as claimed in claim 11 wherein the medical implant is a vascular graft.
13. A kit as claimed in claim 11 or 12 additionally comprising a delivery catheter.
14. A segment for a device as claimed in any of claims 1 to 10.
15. A method of advancing a medical implant along a catheter comprising providing a device as claimed in any of claim 1 to 10 having an implant mounted on one end of the device, inserting said end of the device into the catheter, and pushing on the other end of the device.